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ABSTRACT

Recent studies of self-referent cognition have demonstrated that people process information about themselves more efficiently than other kinds of information. To investigate latency effects in self-referent decision-making, 60 college students participated in a three phase study. In phase one, each subject chose the trait within a pair that best or least described self; in phase two, subjects selected traits which either were similar or dissimilar to self; in phase three, subjects selected traits which were self-descriptive or other-descriptive. Judgment latencies were automatically recorded. An analysis of the results showed that subjects rapidly selected which of two traits better or least described self. "Better" judgments were faster with increasing closeness to the self of selected traits, while "least" judgments were faster with increasing closeness to self of nonselected traits. In terms of judgment latencies, the closer two traits were to each other, the longer subjects took to make a choice between them. (Author/BL)

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SELF-REFERENT DECISION MAKING: A MULTIDIMENSIONAL REPRESENTATION

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Self-Referent Decision Making: A Multidimensional Representation*

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Subjects rapidly selected which of two traits better or least described self. Multidimensional scaling was used to locate persons and traits in the same space. "Better" judgments were faster with increasing closeness to self of selected traits while "least" judgments were faster with increasing closeness to self of nonselected traits.

Recent studies of self-referent cognition have demonstrated that people process information about themselves more efficiently than other kinds of information. For example, Markus (1977) demonstrated that people make faster "me" judgments for traits that are central to their self-concept than for more peripheral traits. Rogers, Rogers, and Kirker (1977) have shown that people exhibit better memory for adjectives previously judged in relation to the self than for similar items judged in other contexts. The pattern of fast judgment latencies and enhanced memory for self-relevant information provides converging evidence for the existence of an organization of knowledge that can be identified with the self (Greenwald & Pratkanis, in press).

Figure 1 represents a prototype version of self-referent cognition models. (It is derived from the models of Bower and Gilligan [1979], Markus [1977], and Rogers, Rogers, and Kirker [1977]). The self is considered to be a central, well-differentiated structure in memory (Greenwald, 1981; Greenwald & Pratkanis, in press). It is associated with (or linked to) a number of other concepts, in this case traits. Some traits are located close to the self (i.e., they are connected via short pathways), while others are located at a greater distance. Distance in this model is meant to represent each trait's degree of association with, or centrality to, the self-concept. This model accounts for judgment latency effects; shorter pathways presumably take less time to traverse, leading to faster "me" judgments for those traits. The model also accounts for memory effects; the self acts as a central concept (or mnemonic peg) in memory, and therefore facilitates the search and retrieval process for traits located closest to it.

While specifying the relationship between one's self and self-relevant information (e.g., traits), these models are limited in that they fail to consider the cognitive representation of the traits themselves. The traits in the Figure, for example, form an integrated structure. That is, moving from left to right, the traits vary from

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unfavorable to favorable, and moving from the upper-left to the lower-right, they vary from passive to active.

Although current models of the self have ignored such issues, research on implicit personality theory has examined perceived trait structure, although in a more general sense (cf. Schneider, 1973). Using multidimensional scaling (Kruskal & Wish, 1978), spatial representations of perceived trait interrelationships can be obtained like the one presented in the Figure (e.g., Rosenberg, Nelson, & Vivekananthan, 1968). It should be noted that the multidimensional trait space is derived from subject's own judgments of trait similarity rather than on the investigator's theory of trait interrelationships.

Recently, we have developed a technique for locating the self within a spatial representation of traits, allowing us to derive a representation of the self similar to the one illustrated in Figure 1 (Breckler & Greenwald, 1982). It includes the representation of trait information like that derived in studies of implicit personality theory, while at the same time specifies a location for the self in such a way that the distance between a given trait and the self is some function of that trait's centrality to the self-concept.

Once the spatial representation of traits is obtained, the location of self can be related to other dimensions of individual variability. If, for example, we assume that one dimension of trait variability will be an evaluative one, then subjects who rate the very favorable traits as most self-descriptive will be located closest to those traits. In comparison, subjects who rate the unfavorable traits as most self-descriptive will be located closest to those traits. As a dimension of individual differences, variability of subject location on this dimension corresponds to self-esteem.

Through the location of self in the trait space we should also account for cognitive processing effects. We should expect, for example, better recall for traits that are located closest to self. Also, judgment latencies associated with self-relevant trait judgments should be some function of their (Euclidean) distance from self. Unlike past studies, however, an objective measure for each trait's distance from self is obtained. This affords a measure of precision missing in most current models.

In a previous study using this technique (Breckler, Pratkanis & McCann, 1983), we found that subject location in multidimensional trait space was correlated with both self-esteem and depression. In that same study subjects also showed better memory for traits located closer to the self.

The present study was designed to relate another cognitive processing variable -- self-relevant judgment latencies -- to the location of self in multidimensional trait space. The overriding objective in this second study was to examine cognitive processes that maximally implicated the presumed cognitive representation of traits, the self, and the interrelationship between the traits and self.

In this study, subjects were shown pairs of traits, and asked to choose, as rapidly as possible, which trait in the pair better described them. In a second condition subjects were instructed to choose the trait in each pair that least described them. Three distances involving the interrelationships among traits and self can be identified: i) the distance separating the two traits, ii) the distance separating self and the selected trait, and iii) the distance separating self and the nonselected trait.

Utilizing a similar procedure, Rogers, Kuiper, and Rogers (1979) found that choice judgment latencies were faster when the traits within a pair were very far apart in terms of self-relevance than when they were very close to other (i.e., a <u>symbolic distance</u>

effect). A second result, namely a failure to obtain a congruity effect, was interpreted by Rogers et al. to indicate that the self acts as a fixed point of internal reference in self-relevant decision making. While Rogers, Kuiper, and Rogers did not specify a precise location for that fixed reference point, it was assumed to be somewhere near the high self-descriptiveness end of a (unidimensional) self-relevance continuum.

Locating the self in multidimensional trait space should provide a method for precisely specifying the fixed point of reference to which Rogers, Kuiper, and Rogers (1979) alluded. Confirmation can be obtained by observing a particular pattern of judgment latencies associated with selecting the most or least self-descriptive trait within a pair. The time required to make a comparison between self and a trait is assumed to be some increasing function of that trait's distance from self. Furthermore, since the reference point (i.e., self) is assumed to be located closest to the most self-descriptive traits, the time taken to make pair comparison judgments should be most strongly influenced by those traits. When subjects are instructed to select the most self-descriptive trait within a pair, judgments should be faster when the selected trait is located closer to self. A different pattern of judgment latencies should be observed, however, when subjects are instructed to select the least self-descriptive trait. Here, it is the nonselected trait that is located closest to self. Therefore, judgments should be faster when the nonselected (but still more self-descriptive) trait is located closer to self.

Method

A computer-controlled procedure was used for this experiment. In the first phase, subjects were presented trait pairs. Half of the subjects were instructed to rapidly select the trait within each pair that better described self, while the other half were instructed to select the trait that least described self. A set of 10 traits created a total of 45 trait pairs. Judgment latencies were automatically recorded. The order of trait pairs was randomized separately for each subject, as was the position of traits on the screen (left versus right). In the second phase of the experiment, subjects rated similarity for the 45 trait pairs. Again, the presentation of trait pairs and screen position (left/right) was randomized separately for each subject, and independently of the ordering for traits during the first phase. The similarity judgments were made on a 5-point scale (from 1 = very similar to 5 = very dissimilar). During the final phase of the experiment, subjects rated each trait for self-descriptiveness and for other-descriptiveness (on 101-point scales, from 0 = not at all descriptive to 100 = completely descriptive). The judgment task (selecting the most versus least self-descriptive trait within each pair) was a between subjects manipulation. Sixty subjects (30 in each condition) participated for course credit.

The SAS ALSCAL procedure (Barr, Goodnight, & Sall, 1979; Young & Lweyckyj, 1979) was used to derive a two-dimensional replicated multidimensional scaling solution. External multidimensional unfolding (Coombs, 1950; Bennett & Hays, 1960) was then used to locate individuals in the trait space. In this application of unfolding, subjects are placed in the trait space so they are closest to self-descriptive traits and furthest from non-self-descriptive traits.

Results and Discussion

Figure 2 shows the two-dimensional scaling solution for subjects selecting the most self-descriptive trait. The solution for subjects selecting the last self-descriptive trait was nearly identical. The traits vary horizontally from bad at the left (inconsiderate, cold, immature) to good at the right (loving, happy, interesting). Vertically, they vary from intellectually good at the top (intelligent, interesting) to intellectually bad at the bottom (narrow-minded, immature).

To further aid in the interpretation of these configurations, trait coordinates were subjected to a clustering analysis. For subjects selecting the most self-descriptive trait, Cluster I contained the intellectually favorable traits (intelligent and interesting), cluster II contained the socially favorable traits (loving, happy, good-natured), cluster III contained the intellectualy unfavorable traits (immature and narrow-minded), and cluster IV contained the socially unfavorable traits (inconsiderate, untrustworthy, and cold). The clustering analysis confirms our earlier interpretation of dimensions as social good/bad and intellectual good/bad. These dimensions are similar to those obtained by previous investigators (e.g., Rosenberg, Nelson, & Vivekananthan, 1968).

The next step was to locate individuals within the spatial configuration. Results from the unfolding analysis for subjects selecting the most self-descriptive trait are shown in Figure 2. It can observed that individuals (identified by stars) were scattered throughout the space.

The final analyses concerned the time it took subjects to select the trait in each pair that better or least described self. A hierarchical multiple regression was conducted with choice judgment latency as the dependent variable, and the three distances separating traits and self as the independent (predictor) variables. Each of the two judgment task conditions (best/least) was analyzed separately in a two step hierarchical multiple regression. The results are shown in Table 1.

For subjects in both conditions (selecting least or best trait), choice judgment latency was faster with increasing distance separating traits (i.e., a symbolic distance effect). For subjects instructed to select the trait that better described self, judgment latency was faster with decreasing distance separating self and the selected (i.e., the more self-descriptive) trait. In constrast, for subjects instructed to select the trait that least described self, choice judgment latency was faster with decreasing distance separating self and the nonselected (but still more self-descriptive) trait.

This pattern of judgment latencies conceptually confirms the findings of Rogers, Kuiper, and Rogers (1979). First, a symbolic distance effect was observed. That is, the closer two traits were located to each other, the longer it took subjects make a choice between them. Second, an analog to the congruity effect was observed. In particular, choice judgment latencies were a function of the distance from self of the most self-descriptive trait in each pair. That is, for subjects selecting the most self-descriptive trait, judgment latency was a function of the selected trait's distance from self. However, for subjects selecting the least self-descriptive trait, judgment latency was a function of the nonselected (but still more self-descriptive) trait's distance from self.

These data provide converging evidence for an interpretation of the self as a fixed point of internal reference in self-relevant decision making. These results also provide further validation of our model for the representation of self in multidimensional cognitive space.

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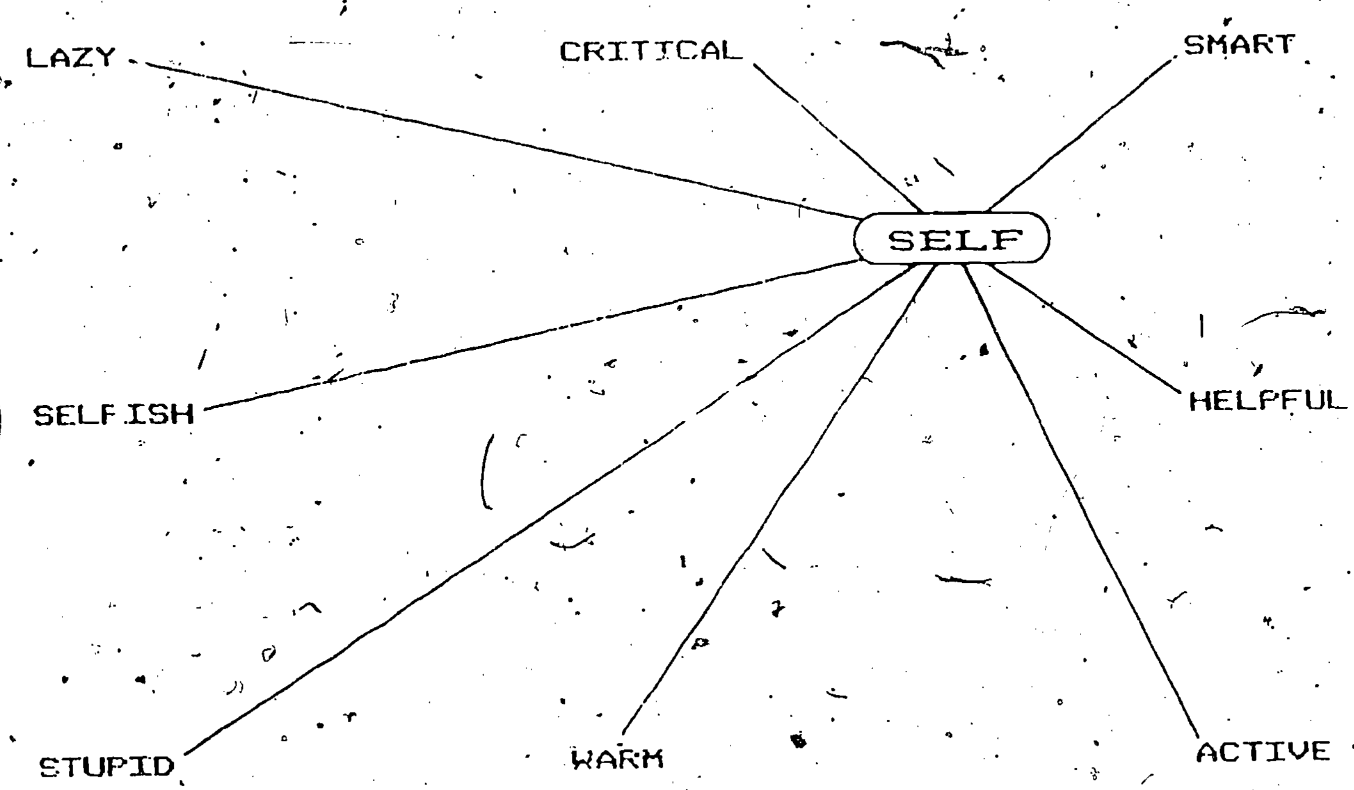
TABLE 1: HIERARCHICAL MULTIPLE REGRESSION
CHOICE JUDGMENT LATENCY AS CRITERION

	MOST		LEAST	
	B	t	B	t
STEP 1				
DISTANCE SEPARATING TRAITS	-4.34	-7.18 XX	-6.77	-7.24 XX
STEP 2				
DISTANCE BETWEEN PICKED TRAIT AND SELF	7.28	6.80 XX	1.01	0.63
DISTANCE BETWEEN NOT PICKED TRAIT AND SELF	0.26	0.24	5.18	3.27 XX

Note: XX $p < .01$

FIGURE 1


LAZY
CRITICAL
SMART
SELF
SELFISH
HELPFUL
STUPID
WARM
ACTIVE

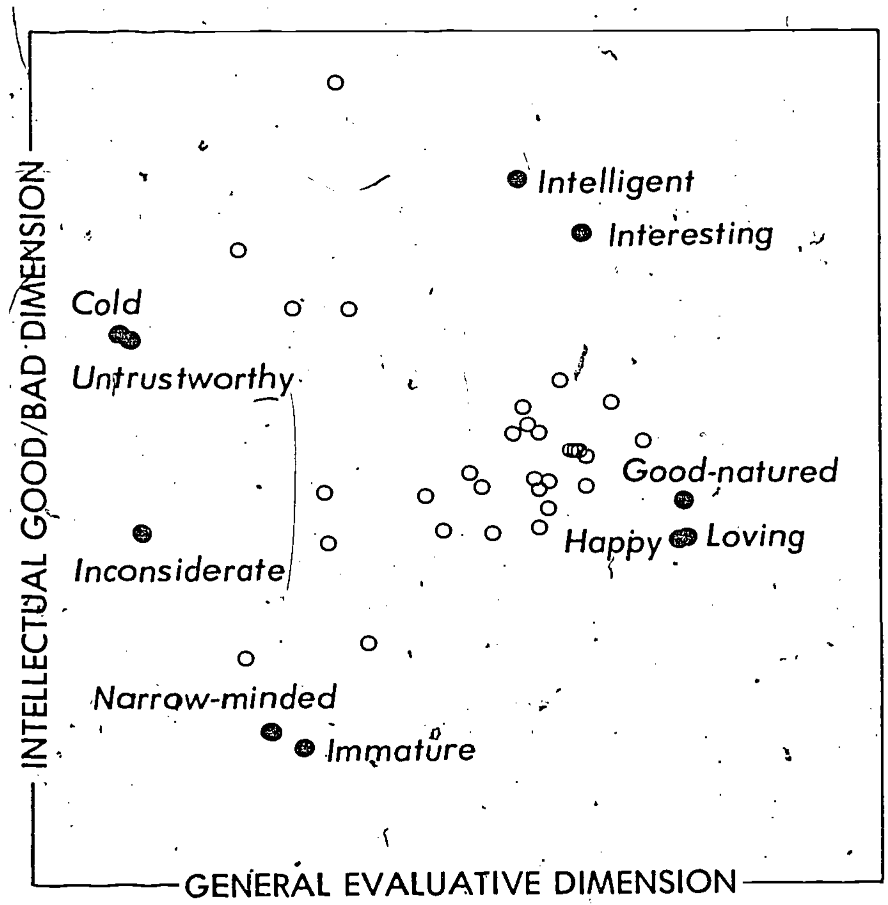

INTELLECTUAL GOOD/BAD DIMENSION
GENERAL EVALUATIVE DIMENSION
Intelligent
Interesting
Cold
Untrustworthy
Good-natured
Happy
Loving
Inconsiderate
Narrow-minded
Immature

FIGURE 2